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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,311	12/12/2005	Meena Augustus	357074.00006	4638

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Saul Ewing LLP (Baltimore)
Attn: Patent Docket Clerk
Penn National Insurance Plaza
2 North Second Street, 7th Floor
Harrisburg, PA 17101

EXAMINER	
KIM, YOUNG J	

ART UNIT	PAPER NUMBER
1637	

MAIL DATE	DELIVERY MODE
08/05/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,311	AUGUSTUS ET AL.	
	Examiner	Art Unit	
	Young J. Kim	1637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 July 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-59 and 65-70* is/are pending in the application.

4a) Of the above claim(s) *1-15,19-27 and 31-59* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-18,28-30,65 and 67-69* is/are rejected.

7)☒ Claim(s) *66 and 70* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 26, 2010 has been entered.

Election/Restrictions

This application contains claims 1-15, 19-27, and 31-59 are drawn to an invention nonelected without traverse in the reply filed on November 16, 2007. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 112 - Maintained

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The rejection of claims 16-18, 65, 67, and 68 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, made in the Office Action mailed on January 26, 2010 is maintained for the reasons already of record.

Applicants' arguments presented in the Amendment received on July 26, 2010 have been fully considered but they are not found persuasive for the following reasons.

Applicants state that the claims have been amended to provide antecedent basis and clarify the claims (page 12, Response).

Unfortunately, the claims remain unclear.

The present amendment amended step (b) of claim 16 to recite the phrase, "comparing the copy number determined in (a) to that of a normal cell of a same organ as the cell in (a)..." This phrase is confusing. Applicants are advised to amend claim 16, step (a) to recite, "obtaining a sample from an organ and determining a cell copy number of at least one gene comprising the nucleotide sequence of SEQ ID NO: 1" then amend step (b) to recite, "obtaining a normal sample from the same organ and determining a cell copy number of said at least one gene," and introduce step (c) to recite, "comparing the cell copy number of (a) and the cell copy number of (c), whereby a higher copy number of said gene for the cell in (a) relative to said normal cell in (b) identifies the cell in (a) as cancerous."

Rejection, Maintained

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The scope of enablement rejection of claims 16-18, 28-30, and 69 under 35 U.S.C. 112, first paragraph, made in the Office Action mailed on January 26, 2010 is maintained for the reasons of record.

Applicants' arguments presented in the Amendment received on July 26, 2010 have been fully considered but they are not found persuasive for the reasons set forth in the, "Response to Arguments" section.

The Rejection:

The specification, while being enabling for a method of identifying a cancerous cell of the breast or a method of detecting breast cancer, does not reasonably provide enablement for a method of identifying or detecting **any cancer**. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Factors to be considered in determining whether a disclosure would require undue experimentation are summarized in In Re Wands (858 F.2d 731, 8 USPQ2d 1400 (Fed. Cir. 1988)). They include (A) the quantity of experimentation necessary, (B) the amount of direction or guidance presented, (C) the presence or absence of working examples, (D) the nature of the invention, (E) the state of the prior art, (F) the relative skill of those in the art, (G) the predictability or unpredictability of the art, and (H) the breadth of the claims.

The Nature of the Invention, Unpredictability of the art, and Enablement Issue:

The nature of the invention relates to a highly unpredictable art of cancer diagnostics based on gene expression or gene copy number. It is well known in the art that the development of cancer involves complex cascades of biochemical reaction. Thus, the enablement issue surround on whether Applicants' discovery of increased copy numbers of a particular gene for a particular type of cancer (in the present case, breast cancer), would enable a skilled artisan to practice the invention for other types of cancers without undue experimentation.

Amount of Guidance and Absence of Working Examples:

The instant specification discloses that Applicants discovered the increased mRNA expression as well as an increased copy number of the gene, "TRIP-13" in breast cancer cell line (page 3, lines 28-32)

The instant specification provides a working example wherein FISH was conducted on breast cancer samples (page 37, line 25 through page 38).

The instant specification also provides evidence that when amplification status of TRIP13 was examined on formalin-fixed tissue microarray (TMA) containing 785 breast cancer samples by FISH, BAC probe from the TRIP13 region exhibited high-level amplification (>3 fold) in 5% of the total cases (547 samples), low level amplification (2 to 3 fold) in 29% of breast cancer samples (page 39).

While the instant specification provides various working examples for breast cancer and how TRIP13 correlates thereto, the instant specification does not provide any guidance or working example when it comes to determining/detecting cancers of other origins.

As stated previously, cancer involves multi-factorial processes, involving cascades of biochemical processes. Consequently, a particular gene marker for a particular cancer does not always equate to its successful usage for determination of other types of cancers.

Such is plainly demonstrated by Knuutila et al. (American Journal of Pathology, 1998, vol. 152, no. 5, pages 1107-1123), wherein Table 1 shows that an increase copy of the gene ABL, is found in a particular types of cancer - Chronic myeloid leukemia. Similarly, the gene, HSTF1, is found to be increased in breast cancer and esophageal carcinoma, and so on.

Therefore, it is complexly unpredictable as to whether a cancer gene marker found strictly from a single type of cancer could be used for determining other types of cancers.

As set forth in *Rasmusson v. SmithKline Beecham Corp.*, 75 USPQ2d 1297, 1302 (CAFC 2005), enablement cannot be established unless one skilled in the art "would accept without question" an Applicant's statements regarding an invention, particularly in the absence of evidence regarding the effect of a claimed invention. Specifically:

> "As we have explained, we have required a greater measure of proof, and for good reason. ***If mere plausibility were the test for enablement*** under section 112, ***applicants could obtain patent rights to "inventions" consisting of little more than respectable guesses as to the likelihood of their success***. When one of the guesses later proved true, the "inventor" would be rewarded the spoils instead of the party who demonstrated that the method actually worked. That scenario is not consistent with the statutory requirement that the inventor enable an invention rather than merely proposing an unproved hypothesis."

While one may argue that one of skill in the art could have been capable of determining whether the copy number of TRIP13 was increased in other types of cancers, this does not account for the unpredictability in the art for correlating gene markers as cancer markers, as shown above. Such argument would be what the court considered as, "little more than respectable guesses as to the likelihood of ... success" which is not a proper showing of enablement.

Therefore, for the above reasons, one of skill in the art would not be capable of practicing the invention fully commensurate in scope of the claims without undue experimentation.

Response to Arguments:

Applicants state that the determination of whether "undue experimentation" would have been needed to make and use the claimed invention is not a single, simple factual determination, but rather, it is a conclusion reached by weighting all the above noted factual consideration.

Applicants contend that when weighing all the factors set forth in *Wands* decision, one of ordinary skill in the art would have been able practice the instant claims without undue experimentation because TRIP13 expression is evident in cells other than breast cancer which make it a useful tool for the identification of chromosomal abnormalities. (page 14, bottom paragraph, Response).

This contention is a statement without facts and thus has not been found persuasive. The enablement is not established simply on whether the method as claimed can be followed (*i.e.*

following steps a, b, c, etc.), but whether the method is enabled for all of its claimed scope (*i.e.,* upon following steps a, b, c, etc, can the intend recited in the preamble be achieved?)

The fact that TRIP13 expression is evident in cells other than breast cancer cells is not the patentable aspect of Applicants' invention. It is the difference in copy number of said gene, ***not*** the expression level of said gene. While differential expression level of a gene can be effected by the difference in gene copy number, such is not the only mechanism of increase in gene expression. Applicants' discovery is based on their finding that the gene copy number of TRIP13 gene is increased in cells of breast cancer when compared to a normal cell from the same organ.

Therefore, enablement is based not on the fact that TIMP3 is expressed in other cells, but whether the gene is amplified in samples of other types of cancers.

Breadth of the claim:

Applicants state that there is no requirement under the CFR in the MPEP for a patentee to describe all possible cell types for diagnosis of cancer where the specification and prior art sufficiently enable one of skill in the art to make and use the invention (page 15, Response).

This argument is not found persuasive as lacking any facts or producing evidence to the contrary against the facts and positions set forth by the Office.

The Nature of the Invention:

Applicants state that the nature of the invention relates to diagnostic methods for cancer by detecting increased expression of the marker TRIP13 (page 15, Response).

Applicants are advised that the claims do not recite this, but rather, are drawn to a method of detecting cancer or identifying cancerous cells by comparing the copy number of the gene TRIP13. As stated above, the two are not the same.

The state of the Prior art:

Applicants' state that the expression of various markers as a means of detecting cancer cells are known in the art and that gene markers for identifying cancer cells were well known at the time of filing of this application (page 15, bottom paragraph, Response).

Initially, as stated above, the claims are not drawn to the increased in gene expression *per se,* but on whether the gene copy number is increased.

In addition, it is respectfully submitted that the fact that general teaching of determining differential expression of genes and its correlation with cancer being known in the art has nothing to do with demonstrating whether Applicants had enabled for a method of detecting all types of cancer when the study was based on a single type of cancer from a single type of sample.

This was clearly conveyed to Applicants wherein Knuutila et al. (American Journal of Pathology, 1998, vol. 152, no. 5, pages 1107-1123), showed in Table 1 that an increase copy of the gene ABL, is found in a ***particular types*** of cancer - Chronic myeloid leukemia. Similarly, the gene, HSTF1, is found to be increased in breast cancer and esophageal carcinoma, and so on.

The fact is plain and clear that a particular gene marker for a particular cancer is not associated with any and all types of cancers.

Applicants next contend that the present invention seeks to use TRIP13 as a visualization tool for more broadly measuring cancer abnormalities at the chromosome level, rather than morphological level or even the molecular level (page 16, top paragraph, Response).

Applicants then contend that US publication 2007/0059697, which is filed by the same inventive entity) relates to methods of diagnosing a cancerous or pre-cancerous condition. Applicants refer to Table 1 of said US publication and assert that increased chromosomal copy number correlates to cancers of various types. Applicants sate that SEQ ID Numbers 26, 356, 579,

721, 722, 833, 834, and 855, and 856 are collocated on the same chromosomal region as TRIP13 and are shown to be implicated with various types of cancers such as breast, colon, lung, and prostate.

The fact that all these different sequences found on the similar area of the chromosome already clearly demonstrates the fact that ***not all*** genes are implicated with the same types of cancers. If it were so, all of these SEQ ID Numbers should have been correlated with the same types of cancers. In addition, Applicants are reminded that the instant claims require the copy number of the nucleic acid ***comprising*** SEQ ID Number 1.

SEQ ID Numbers 26, 356, 579, 721, 722, 855, and 856 of said US publication 2007/0059697 has no similarity to instant SEQ ID Number 1 (*i.e.,* TRIP13) according to the sequence comparison performed on BLAST™.

As to SEQ ID Numbers 855 and 856 of said US publication, these are protein sequences.

Clearly, Applicants' assertion has no factual basis from which it can be shown that TRIP13 gene of SEQ ID Number 1 has correlation with cancers other than breast cancer, wherein the method employs a sample from a stomach.

Applicants' assertion is simply a little more than a respectable guess.

However, as set forth in *Rasmusson v. SmithKline Beecham Corp.*, 75 USPQ2d 1297, 1302 (CAFC 2005), enablement cannot be established unless one skilled in the art "would accept without question" an Applicant's statements regarding an invention, particularly in the absence of evidence regarding the effect of a claimed invention. Specifically:

> "As we have explained, we have required a greater measure of proof, and for good reason. ***If mere plausibility were the test for enablement*** under section 112, ***applicants could obtain patent rights to "inventions" consisting of little more than respectable guesses as to the likelihood of their success***. When one of the guesses later proved true, the "inventor" would be rewarded the spoils instead of the party who demonstrated that the method actually worked. That scenario is not consistent with the statutory requirement that

the inventor enable an invention rather than merely proposing an unproved hypothesis."

While one may argue that one of skill in the art could have been capable of determining whether the copy number of TRIP13 was increased in other types of cancers, this does not account for the unpredictability in the art for correlating gene markers as cancer markers, as shown above. Such argument would be what the court considered as, "little more than respectable guesses as to the likelihood of ... success" which is not a proper showing of enablement.

Applicants also contend that the examiner step back from reading of the claims as set forth in the Office Action of January 26, 2010 and to consider TRIP13 as the tool to visualize chromosomal abnormalities that are indicative of cancer broadly (Page 17, 1st paragraph, Response).

It is respectfully submitted that this argument is irrelevant as the claimed invention is drawn to a method which require that copy number of the gene be determined, not visualization of the chromsomal staining/painting.

The Level of the "Ordinary skill":

Applicants' position of the skill level of the artisan in question seems to be the same as the position taken by the Office.

The Level of Predictability in the Art:

Applicants state that it has been well settled that the amount of guidance or direction needed to enable the invention is inversely related to the amount of the knowledge in the state of the art as well as the predictability in the art. Applicants thus contend that more is known in the art, the more predictable the art is, and the less information needs to be explicitly stated in the specification (page 17, bottom paragraph, Response).

Applicants thus contend that there are ample information in the art about TRIP13, gene markers co-expressed with TRIP13 and cancer diagnostics. Coupled with the level of those skill in

the art (advanced), there is no need for the applicant to articulate material already known in the art (page 17, bottom to page 18, 1st paragraph, Response).

This argument is flawed.

The fact that a general method of using a microarray to diagnose a cancer does not enable any and all genes for a cancer diagnostics. It is the actual gene that enables the diagnostics. Applicants are trying to demonstrate enablement by comparing things which are unrelated. The question to be asked is whether or not TRIP13 is implicated with other types of cancers when the gene copy is amplified, ***not*** whether TRIP13 was known in the art. As Applicants are well aware, not every gene is useful for cancer diagnostics.

As to Applicants contention that several genes which were found to be co-expressed with high levels of TRIP13 expression, it is again relayed herein that the expression level of the gene is different from the copy number of the gene. While expression of the gene may be increased by increase in gene copy number, it need not be the result of such an increase. In addition, the claims in the broadest embodiment embrace a method of using a single gene, TRIP13 for the determination of all types of cancer, which is clearly not shown by Applicants.

The Non-existence of working examples:

Applicants' showing of working example for a single type of cancer by examining single type of samples (*e.g.,* stomach cancer from stomach cancer cells), does in no way justify the breadth covering any and all types of cancer determination.

The Quality of experimentation needed to make or use the invention:

Applicants cite the Fed. Circuit in stating that, "[t]he test is not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine or if the specification

in question provides a reasonable amount of guidance with respect to the direction in which the experimentation would proceed." (*Wands*) (page 19, Response).

If one were to apply this statement loosely to methods such as this, anyone can discover a gene implicated with a single type of cancer and get a claim for diagnosing any type of cancers. Such is not the case.

The more appropriate caselaw which would be applicable to the instant situation would be from *Rasmusson v. SmithKline Beecham Corp.*, 75 USPQ2d 1297, 1302 (CAFC 2005), enablement cannot be established unless one skilled in the art "***would accept without question***" an Applicant's statements regarding an invention, particularly in the absence of evidence regarding the effect of a claimed invention. Specifically:

> "As we have explained, we have required a greater measure of proof, and for good reason. ***If mere plausibility were the test for enablement*** under section 112, ***applicants could obtain patent rights to "inventions" consisting of little more than respectable guesses as to the likelihood of their success***. When one of the guesses later proved true, the "inventor" would be rewarded the spoils instead of the party who demonstrated that the method actually worked. That scenario is not consistent with the statutory requirement that the inventor enable an invention rather than merely proposing an unproved hypothesis."

One of skill in the art, fully knowing that a particular gene associated with a particular cancer would not be useful in determining any and all types of cancer, ***would not readily accept without question*** that Applicants' finding of TRIP13 gene which is only shown to be implicated with stomach cancer would be useful for any and all types of cancer.

Applicant's conclusion:

Applicants state that the Office has failed to show the unpredictability of the art for correlating increased chromsomal aneuploidy, measured by TRIP13, to cancer (page 19, bottom paragraph, Response).

Applicants state that sine cancer is a genetic disease and other markers known to the same chromosome region as TRIP13 are associated with various cancers, TRIP13 as a probe target to measure aneuploidy in cells would be predictable in view of the art and the disclosure herein (page 20, 1st paragraph, Response).

This argument is found moot as the claims are not drawn to detecting a chromosomal region, but the determination of gene copy number, wherein said gene SEQ ID NO: 1 (TRIP13).

Therefore, based on the foregoing, the rejection is deemed proper and thus maintained.

Examiner's Comment

Instantly claimed nucleic acid of SEQ ID NO: 1 is disclosed as encoding the protein of SEQ ID NO 7.

Baak et al. (WO 02/10436 A2, issued February 7, 2002, of record) disclose a protein which is 100% identical to instant SEQ ID NO: 7, wherein the artisan disclose that this protein is over-expressed in breast cancer samples (see claim 1).

Baak et al., however, do not disclose that the number of gene copies encoding the protein is increased in breast cancer samples.

Sutherland et al. (Acta Oncologica, 1995, vol. 34, no. 5, pages 651-656) evidences that not all genes which are amplified results in increased expression of the gene products:

> "Increased expression of cyclin D1 was the most common alteration in cyclin gene expression noted in these cell lines. This gene was highly expressed in MDA-MB-134, -175, -330, and -453 cells and one of two MCF-7 variants, Compared with the level of mRNA observed in the majority of the breast cancer cell lines and in two strains of normal, non-transformed breast epithelial cells … Cyclin D1 **gene amplification was detected in six cell lines but amplification was not a prerequisite for, and did not always lead to, increased cyclin D1 expression**." (page 654, 2nd column, bottom paragraph).

Therefore, one of ordinary skill in the art would **not have had a reasonable expectation of success** at concluding that the cause of the increased protein level determined by Baak et al. was based on the increased copy number of the gene encoding that protein.

Since there was no reasonable expectation of success, there would also have been no motivation to arrive at the claimed invention based on the disclosure of Baak et al.

Applicants are advised to limit the scope of the claims to breast cancer for the allowance of the application.

Conclusion

No claims are allowed.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on

the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Young J. Kim whose telephone number is (571) 272-0785. The Examiner is on flex-time schedule and can best be reached from 6:00 a.m. to 2:30 p.m (M-F). The Examiner can also be reached via e-mail to Young.Kim@uspto.gov. However, the office cannot guarantee security through the e-mail system nor should official papers be transmitted through this route.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Gary Benzion, can be reached at (571) 272-0782.

Papers related to this application may be submitted to Art Unit 1637 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 CFR 1.6(d)). NOTE: If applicant does submit a paper by FAX, the original copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED, so as to avoid the processing of duplicate papers in the Office. All official documents must be sent to the Official Tech Center Fax number: (571) 273-8300. For Unofficial documents, faxes can be sent directly to the Examiner at (571) 273-0785. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like

assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Young J. Kim/
Primary Examiner
Art Unit 1637
8/4/2010

/YJK/